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LEADING ARTICLES

AN OPERATION FOR THE RESTORATION OF THE FEMALE PELVIC OUTLET BASED ON THE ANATOMICAL STRUCTURE AND PHYSIOLOGICAL FUNCTIONS OF THE PARTS.*

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We start with a proposition which as applied to all operations for the repair of traumatic injuries may be considered as basic; that is the adequate purpose of all technic is to appropriate the parts in their true anatomical relationship and to restore lost function.

No operation designed for the repair of traumatic injuries of the female pelvis should be considered which does not have for its primary object the complete restoration of the anatomical structure and physiological functions of the injured parts as well as the correction of malposition of contiguous and dependable parts due to such trauma. It has long been recognized that trauma is produced in every parturition, varying from slight vaginal abrasions to complete lacerations, embracing all the structures of the pelvic diaphragm and pelvic body. Many different operations have been devised to repair such lesions, but few of them seems to possess, fundamentally, an anatomical basis, the larger portion being notorious for their lack of rational ideas in their aim to restore the damaged parts to their normal condition. One of the greatest sins of surgery has been the needless infliction of punishment on womankind by operators who attempted the use of compensory devises, such as wire sutures, pins, silk-worm gut, etc., in lieu of a technic which permitted an open anatomical approximation of the parts. The failures following such operation is analogous to those which followed operations for inguinal hernias before Bassini gave to the world an operation with a solid anatomical basis.

In the following observation on the anatomical structure and function of the parts composing the female pelvic outlet we do not presume to tell you anything new or original. The woman of this strenuous and artificial age does not differ from "Mother Eve," the original article as she was given us direct from the laboratory of the Lord. The structures which compose the female pelvic diaphragm are fully described in our modern text-books on anatomy. In our review we have followed "Soboda and McMurrich Atlas and Text-Book on Human Anatomy" last edition. The following brief description of the structure, origin and insertion and function of each part composing the pelvic outlet, and also an observation on what will happen if those structures are broken and parted during parturition will serve as a foundation for what appears to us as an adequate procedure to restore these parts to a normal condition.

The bony pelvis is composed of the ossa inominata, sacrum and coccyx and is bounded by the same in the order named laterly and posteriorly and by the interpubic fibrocartilage anteriorly.

The ileopectineal line marks the boundary

*Read at the meeting of the Medical Association of the Southwest, San Antonio. Texas, November 9, 1909.

NOTE.—It must be borne in mind that when in the upright position, or the natural position of woman when walking that the pubis symphysis and the anterior superior spines of the ilium are in the same vertical plane and the terminal line (iliopectineal line) or white line forms an angle open to the rear of about 33 degrees. Thus it will be observed that the plane or pelvic contraction forms an angle of about 65 degrees with a horizontal line, thus falling in the same plane as the pelvis itself. In the recumbent dorsal position, the usual posture of woman during the puerperium, will form an angle of 33 degrees with the horizon thus offering less support to the pelvic load than in the upright position. If on the other hand woman went on all fours the plane would fall in a line directly perpendicular to the line of descent of the pelvic load but opposite to the force exerted by the weight of same.

between the true and false pelvis and is important as marking the dividing line between the parietal and visceral pelvic fascia. It is the line of origin of the pubococcygeus and the iliococcygeus, the component parts of the levator ani, and the anal fascia, which structures combined with viscera pelvic fascia forms the pelvic diaphragm. The levator ani muscle is composed of the two parts: (1) the pubo coccgyeus and the (2) iliococcygeus; the first named arising from the inner surface of the superior ramus of the pubis and passing backward it is inserted in the tendinous center of the perineum and passing around the rectum it terminates in the anococcygeal ligament. It might be considered as a paired muscle each part sweeping laterly around the vagina and rectum. The iliococcygeus arises along the iliopectineal line and is inserted in the sides of the rectum and terminates in the anocccygeal ligament. The cooccygeus is just behind the posterior portion of the levator, the fibers of the two intermingling so that it might be considered as a continuation of that muscle.

Thus we have the levator ani, the coccygeus and their fascia forming a funnel-like closure of the pelvic floor, the same being triangular in form, the apex perforated by the rectum, the center occupied by the vaginal canal and the anterior part which is partly open being filled by the urogenital trigone. By this arrangement the rectum and vaginal walls are supported and anchored, both laterally and longitudinally. This pelvic floor is further supported in sustaining the pevlic load by another group of muscles, which together with their fascia constitute a pubo-coccygeal sling or hammock. This so-called hammock is composed of the bulvo cavernosa (sphincter vaginae) sweeping around the vagina from its tendinous attachment at the base of the clitoris and superpubic ligament, the larger portion being on the lateral and posterior parts of the vagina, it being inserted in the tendinous portion of the perineum where its fibers intermingle with those of the external sphincter ani, which muscle encircles the rectum and is inserted in the ligaments attached to the cooccyx. This sling is supported laterally by the superficial transverse perinei, paired muscles which sweep transversely from their origin along the inner margins of the tuberosity of the ischii to the central tendinous portion of the perineum, its fibers intermingling with those of the sphincter ani and bulbocavernosus.

The functions of the above described pelvic diaphragm andpubo-coccygeal sling are to maintain the vaginal canal and rectum in proper position and to prevent a prolapse of the pelvic viscera and also to aid in maintaining intra-abdominal pressure during the process of parturition and during micturition and defecation, etc.

It will be observed that the levator muscle and fascia constitute the most contractile part of the support, and thus having the most important function to perform.

It must be remembered that during parturition that the child must pass through the vaginal slit in the pubococcygeal and the urogenital trigone and the vaginal loop of the bulvocavernosus. The transverse perinei are placed at enormous tension, and in prolonged labors their fibers may be so stretched and thinned out that loss of function may follow. The fibers of external ani which are inserted in the tendinous portion of the perinei are also enormously stretched. It is obvious that lacerations of sufficient depth to involve the integrity of either of the above-named structures and their fascia that serious results may follow if the injury is not repaired. It is true that an unrepaired injury to either of these structures may impair the entire pelvic support. During parturition the pubococcygeus, the iliococcygeus and structures composing the pubococcygeal hammock are partly resistent to the uterine contractions and intra abdominal pressure, and considering the points of origin and insertion of these structures and the angle of the pelvis it will be found that the line of least resistance falls in the perineal center. Nature has fortified that point greatly by the tendinous union of the muscles and fascia there, constituting the perineal body, yet we find that it is the point most often torn. It is obvious that when this body is broken that the entire pelvic support will become defective, thus permitting prolapse of all pelvic viscera with consequent impaired function of all those parts.

Furthermore, we wish to lay especial stress on the point that if the pubococcygeal and iliococcygeal with their fascia are torn asunder that the anterior support of the rectum and the posterior support of the vagina are destroyed, the rectum falls away from the vagina above the perineal body, and the vagina drops away from the pubic arch. The loss of this support is felt by the rectum, vagina, bladder, uterus, and thus the whole pelvic and abdominal viscera and permits prolapse of those parts limited in time to the length to which the ligaments, vessels and nerves of those parts will stretch. The loss of those parts plus the destruction of the sphincter vaginae and transverse perinei give us in course of

time rectocele, cystocele, prolapse uteri and pouting vagina.

We will not discuss the indications for operation, but will try to outline a technic for the "radical cure of the injury." The operation we describe may not suit every case, but the principles involved are applicable to all. We will describe a technic for the average case where the perineal body has been broken up by laceration of component part or parts with rectocele and pouting vagina resulting. The operation is the open flap splitting one, giving free exposure of the external sphincter and levator ani entire and superficial transverse perinei with their fascia.

We use a pair of Mayo dissecting scissors and make a U-shaped incision from just below the orifice of the glands of Bartholin along the muco-cutaneous margin. By blunt dissection the posterior wall of the vagina is separated from the rectum up to the highest point of the rectocele and laterally as far as the scar tissue extends and far enough to give free exposure of the margins of the levator ani muscles and their facsia. This point is important for the fascia has more to do in restoring strength to the injured parts than the muscle tissue itself.

The second step is to suture the levator ani and fascia. From two to four sutures are required and the suture material should be fifteen-day chromic catgut. It is important that these sutures be placed far enough out to include the fascia. They should be placed so as to lap the edges of the muscles. The next step is to bring up the severed ends of the bulvocavernosus and external sphincter ani and unite them in the perineal center. Then catch up the fibers of the transverse perinei and insert them in their normal place. This, however, cannot always be done, as those muscles when parted from their insertion often retract so far that they cannot be found.

Hemorrhage can be controlled by hot sponges and pressure with gauze packs, it rarely being necessary to ligate bleeding points. The last step is to suture the flap verticlly with buried twenty-day catgut.

The advantages of this operation are:

1. Exact anatomical approximation of the parts.
2. It gives a permanent cure with full restoration of lost function.
3. It is far less painful during the process of healing with no sutures to remove.
4. It can be done in far less time than any other method.

Subscribe for the MEDICAL FORTNIGHTLY.

MASTOIDITIS AND OTHER COMPLICATIONS OF ACUTE AND CHRONIC SUPPURATIVE OTITIS MEDIA.*

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This program being in the order of a symposium makes it necessary for me to take the subject up at a point where mastoiditis is developing as a complication of acute or chronic suppurative otitis media or is supposed to be developing.

The most praiseworthy work of the otologist is the attempt to prevent this complication arising in the course of acute or chronic suppurative otitis media. Many times, in the light of modern otological therapy, mastoiditis can be prevented, and again in spite of the most painstaking efforts on the parts of both physician and patient one complication after another will follow, sometimes ending in a fatal meningitis, sinus thrombosis or brain abscess.

These disastrous results are to be avoided by methods to prevent or abort mastoiditis or early operation when it has developed and before intra-complications have occurred. These occasional disastrous results are what have led Poltizer to say that the temporal bone is bounded on three sides by death.

Great changes have taken place in the professional mind regarding otological therapy and surgery in the last fifteen years. Much of this change in the mental attitude of the profession is due to the wonderful progress made in the surgical management of these cases.

As an illustration of the advance in otology I might refer to a book I have, written by Prof. Adam Poltizer twenty-seven years ago. In this book there is not a single word regarding the radical mastoid operation, except in those cases where intracranial complications have already taken place or are suspected to have taken place, while today we strongly advise the radical operation to cure old chronic discharging ears, as preventive medicine or surgery is the brightest jewel in the profession diadem.

The anatomical arrangement of the temporal bone pre-eminently subjects the individual to possible serious consequences the moment acute otitis media develops when if it becomes prolonged into a chronic form becomes even more dangerous. We know that sometimes within twenty-four hours

*Read before the Danville Physicians' Club, September 23, 1909.

after an otitis media is fully established meningitis may develop and proceed to a rapidly fatal termination. Such fulminating conditions as this need some explanation and should remove the veil of indifference when it exists, which hides these possible fatal consequences. These rapidly fatal or complicating cases can occur because of the exceeding virulence of the infection. If we remember the anatomy there may be dehiscences in the bone at one place or another which allow of direct extension of the inflammation to the meninges. Infection may travel along the sheath of arteries or nerves, or through imperfectly closed sutures. The thin roof of the attic is readily eroded reaching the meninges of the cerebrum. The roof of the antrum and the wall of the sigmoid sinus are especially vulnerable points.

The pathology of mastoiditis is about as follows: After the inflammatin has extended from the middle ear and antrum to the mastoid cells there may be a lack of air causing a partial or complete vaccuum with its resulting passive hyperemia and transudation. There may be bacterial invasion of the muco-periosteum with cative hyperemia and round celled infiltration. The pavement epithelium is loosened from the submucosa and the exudate may be so great that all the air spaces are obliterated. Pressure then begins its destructive work. Pressure shuts off the blood supply and kills the muco-periosteum, and secondarily the bone. The pressure is the greater because it is confined in a cavity nearly surrounded by bone. Besides the pressure we have the toxic effect of the bacteria, which depends upon their virulence.

The bacteriology of mastoiditis, necessarily, would be nearly identical with that of the acute primary process. Kuemmel-Supfles results on the bacteriological investigations of this condition in Heidelburg were as follows: "Sixty -six per cent were caused by the streptococcus pyogenes; about 17 per cent by the diplococcus lanceolatus; about 11 per cent by the streptococcus mucosa; about 6 per cent by the staphylococcus pygenes aurnus and albus. These correspond with Denker's investigations. Other bacterial flora are found as a cause of mastoiditis than these mentioned above. Tubercle bacilli are occasionally found, and I have had one case in which I demonstrated the presence of the colon bacilli so it would seem that the bacteriology of mastoiditis is rather extensive.

The etiology of mastoiditis, like the bacteriology, is necessarily, primarily, the same as that of the otitis preceding the mastoiditis, except in the rare cases of primary mastoiditis, where some form of infection must lodge in the lymphatics of the mastoid process or in some of the terminal vessels and there light up a focus of infection. The etiology you have heard in the paper preceding mine as a part of the program.

Mastoiditis, untreated, would terminate in spontaneous recovery or death by extension to intra-cranial structures. It is difficult for us to know what per cent of such cases would terminate in spontaneous recovery. I have seen two cases terminate this way. One was a woman about 33, who would not allow anything done in spite of my entreaties and that of friends. The case had many serious aspects. All that was done was some indifferent application of heat made by herself. She had high temperature, edematous swelling, great pain with general physical deterioration. After a prolonged siege resolution slowly took place, and I suppose she will never be tired of telling how I tried to alarm her about a condition that got well of itself. If 20 per cent of these cases would spontaneously recover it still leaves an 80 per cent with a veritable sword of Damocles hanging over the head of each one of these individuals.

Masotiditis pure and simple involving only the mastoid cells would be a comparatively innocent thing aside from toxic absorption. It is the dangerous complications we dread, and the possibility of these complications can not be foretold. In my won limited experience I have had two cases that could not be considered neglected or of long standing in which on removing the cortex and evacuating the cells it was found that the disease had already destroyed the osseous walls of the lateral sinus which would have, in all probability, in a few days caused thrombosis of the sinus and possibly death. So it is these complications that should make us feel that every patient, with acute or chronic otitis media, and especially when mastoiditis has developed, has, figuratively speaking, a charge of dynamite at the base of the brain which may go off at any minute.

The complications occurring in the course of mastoiditis are: 1st, Pachymeningitis; 2d, epidural abscess; 3d, thromosis of the sigmoid sinus; 4th, serous meningitis; 5th, thrombosis of the jugular bulb; 6th, thrombosis of the internal jugular vein; 7th, brain abscess of middle and anterior fossa; 8th, cerebellar abscess; 9th, purulent meningitis; 10th, encephalitis; 11th, subdural abscess; 12th, thrombosis of the petrosal sinus; 13th, thrombosis of the cavernous sinus.

Why is it that, even yet, so large a per

cent of the general profession and laity do not place the importance on these conditions that there should be. The general surgeon has the laity educated to know that appendicitis is a dangerous thing, even if a few of the cases do get well under non-surgical treatment. They know that if the operation is done early and skillfully it is not dangerous. When one suggests a radical mastoid operation to cure an old chronic suppurative otitis media and also to get rid of the grave dangers of intra-cranial complications the patient is up fighting the proposal instantly; consequently the majority of the radical operations are done only after mastoiditis has developed or even some of the intra-cranial complications have taken place. This, like all weighty medical problems, has been slow, but we have at least established a fairly good general conception of this acute and chronic disease, their dangerous complications and ofttimes tragic sequela. The radical mastoid operation in all cases of chronic otitis media is as much a life-saving procedure as the operation for appendicitis; for many cases of appendicitis would get well without operation. One hundred operations had far better be done, even if twenty of them would have gotten well without operattion, than to subject the other eighty to almost certain death. By work without ceasing the ear men, with the help of the general profession, will be able to demonstrate the value of the operation and they will become preventive procedures instead of procedures of last resort. We have only to scan the literature on this subject to learn of the frightful toll paid annually in valuable lives bceause of the neglect to correct old chronic and recurrent discharging ears. Probably 50 per cent of the cases of brain abscess are sequela of chronic suppurating ears. Outside of certain epidemic conditions a large per cent of the inflammatory brain lesions are due to acute and chronic suppurating ears. It has been estimated that 12,000 cases of brain abscess occur annually in Germany alone. A like condition exists, no doubt, in other countries. If life is worth saving, and that is our mission, we certainly have a plain duty marked out for us in impressing on our patients the dangers they carry about in the niches of their diseased temporal bone. We cannot say let it alone, the child or the individual will outgrow it, the patient's life may pay the penalty of the neglect. The disease may outgrow the patient.

The diagnosis of mastoiditis is usually not difficult. It is like many other things; typical cases give us no trouble. The difficulty comes in those cases where the complications are not well defined as being one or the other, or a combination. In the past mastoiditis has many times been diagnosed as typhoid fever and the patient allowed to die when a simple operation would have saved a valuable life. I saw a case several years ago that had been allowed to lay two weeks with such a diagnosis when the physician knew that the boy had had a discharging ear. He was removed to Lake View Hospital where I made a diagnosis, operated, found the lateral sinus thrombosed from end to end with a soft very septic mass. His condition was desperate, and he died in three days from prolonged general sepsis. A diagnosis and operation one week sooner would have in all probability saved his life. There can hardly be any excuse for such a diagnosis at the present time with our modern laboratory facilities. A positive Widal reaction would certainly mean typhoid, or in the presence of a low leucocyte count we would almost certainly know that we were not dealing with a pus infection, especially if the differential count showed a normal percentage of polynuclear neutrophile leucocytes. In the first week of typhoid, as you know, the leucocyte count runs low, and also the polynuclear percentage. With a little care this kind of a mistake would be avoided. One could, and sometimes those with the greatest experience, are led to believe thrombosis of the sigmoid sinus has taken place when the case clears up or operation reveals a normal sinus. I saw a case some ten years ago on which I did the simple operation; he did well for three days when chills and high temperature developed and I felt sure that I was getting an extension of the disease which was involving the sigmoid sinus. Had I been hasty to advise farther operative procedure I would have found my mistake in rather an unpleasant way, for in three days more he was pursuing a normal course and went on to recovery. A brain abscess sometimes develops during the height of the acute process and its symptoms are masked by the more acute ones and an abscess not suspected which lie inactive for weeks, and sometimes months after the acute process has subsided, and later show itself. In our consideration of this subject we must not forget that it is possible to make a diagnosis of mastoiditis when it is only furunculosis of the external auditory canal. A little close observation of the case should eliminate this error. Dr. H. Gradel, of Chicago, in the August, 1908, number of the Laryngoscope reports four cases which most strik-

ingly shows the possibility of this error. (Since writing this paper I have seen a case in consultation which, on superficial examination, presented a most striking appearance of mastoiditis, but proved on close inspection to be furunculosis.)

Mastoiditis we rarely expect to find except as secondary to acute or chronic suppurative otitis media, and on the following symptoms we will base our diagnosis.

The symptoms, of course, will vary with the stage at which the case comes under observation. Acute otitis media running its course, without perforation of the drum membrane, sometimes presents symptoms of mastoid irritation which usually subside spontaneously or after some suitable antiphlogistic treatment. Symptoms of mastoid involvement takes place either before or after perforation of the membrana tympani. There is spontaneous pain in the mastoid as well as pain which radiates in all directions from the ear. There is increased temperature of the skin covering the mastoid and tenderness on pressure over the tip and middle part of the mastoid and a temperature of from 98.6 to 102, and, occasionally, in children, reaches 104. The pain is usually persistent and radiating which is increased by pressure and percussion. After the abscess has been localized the pain usually becomes fixed at one point. Pain and tenderness may be entirely wanting in some cases in spite of extensive abscess formation. Temperature alone is untrustworthy for it may be high or entirely lacking. A marked increase of the skin temperature as compared with the healthy side will be noticed. Edematous swelling or swelling and redness of the integument covering the mastoid process. When the swelling becomes marked enough it causes the auricle to stand out from the head. If the swelling appears during the first few days of the disease one may assume that the seat of the abscess is superficial, while if this occurs after several weeks one may consider that an extensive destruction of bone has taken place. Sometimes in extensive destruction the skin over the mastoid process is unaltered. The membrana tympani is usually found much altered, bulging, high congestion, large or small perforations, macerated appearance, etc. Sinking of the posterior or superior wall of the external auditory canal is sometimes seen to which some attach much importance as an indication for operation. The discharge of pus may be much or little. Enormous quantities coming from the meatus indicate mastoid abscess for such quantities can not be contained in so small a space as the tympani cavity. Frequently the aural discharge nearly or quite ceases when an abscess has developed in the mastoid process. Facial paralysis occurring in the course of acute or chronic otitis media is an indication of erosion of the facial canal.

The bacteriology of every case should be deterimned, if possible, for from this we might be able to prejudge the possibility of more or less rapid extension to contiguous structures. If we discovered a streptococcus infection we would expect a more rapid and wide spread destruction than if it was found to be staphylococcus infection. If it was tubercular we would demand immediate and radical operative interference. So much for the symptoms and diagnosis of simple mastoiditis. In the intra-cranial complications of otitis media we find the typical and the atypical cases. The latter and combinations of these complications sometimes makes diagnosis uncertain, but fortunately, a careful study usually enables us to properly classify and locate the lesion. The symptoms and diagnosis of these intracranial complications form so vast a subject that with the limited time this evening we can only touch the surface.

Pachymeningitis is probably the most common and occurs in the dura, in the region of the lateral or sigmoid sinus or floor of the middle fossa in acute cases and in the region of the tegmen tympani in chronic cases. The one prominent symptom is headache localized in the inflamed area of the dura, irritable temper, twitching, drowsiness at times, photophobia, delirium with the added symptoms of the mastoiditis.

Epidural abscess is most common around the sigmoid sinus, tegmen antri and floor of the middle fossa. The mastoid symptoms have in addition, pain of a more persistent nature, high temperature, frequent vomiting, restlessness, sleeplessness, sometimes chiil and fluctuating temperature. The diagnosis is frequently made at the time of the mastoid operation.

Thrombosis of the lateral or sigmoid sinus is frequently met, especially in neglected or delayed cases. More frequently seen in cases of chronic otitis media, and here let me say that the experience gained from the largest clinics in the world shows, absolutely, that far greater danger lies in these old chronic discharging ears than in acute cases. Thrombosis may be complete or partial. The infection is usually of a virulent type. The fact that the temperature ranges from normal to 106 or higher, quickly dropping to the normal point or below makes it one of the most important symptoms. These fluctuations may take place

several times in twenty-four hours. Chills are present in one-half of the cases. Sometimes only chilly sensations which may be overlooked but which are of as much importance as the distinct rigors. Rapid pulse accompanies the rise in temperature. Pain is more severe than in simple mastoiditis. Pain along the jugular vein when it becomes infected. There may be nausea and vomiting. Cerebral functions are normal except in advanced cases. Intraocular symptoms are present in about one-third of the cases. There may be loss of appetite, dry coated tongue with general septic appearance. There may be stiffness of the muscles of the neck. The above symptoms coming on a few days after the primary mastoid operation are more to be relied on if the wound looks healthy all but a small area over the sinus. The granulations may look pale, if the bone is bare it may look dark, if the sinus was exposed at the primary operation it may present a grayish or yellowish appearance. The symptoms of thrombosis could be dwelt on for an hour, and then not exhausted, but the above gives a few points of differentiation.

Brain abscess presents more difficulties of diagnosis than any other complication of otitis media, because of the number of symptoms, some due to other intra-cranial conditions. Diagnosis is often not made until at the operation after following the destructive process to its end in the abscess cavity. Purulent discharge from the ear, present or past, localized pain, tenderness on percussion, fretfulness, irritability, moaning, grinding of the teeth, crying out in the sleep and nausea and vomiting insomnia early and later drowsiness, photophobia, aphasia, vertigo, in the majority of cases. Slow pulse when complicated. A cerebellar abscess may remain unrecognized if the accumulation is well walled off and small in amount. If deeply seated lack of co-ordination leads us to suspect a lesion in the posterior fossa. Cerebellar abscess may present many of the symptoms as when located in other parts of the brain. In all these cases we must keep in mind our general knowledge of the central nervous system; Babinski's reflexes and Kernig's sign, etc., and the motor and sensory disturbances.

We cannot leave the diagnosis of intracranial complications of acute and chronic otitis media without at least a few words on intraocular signs, lumbar puncture, blood examination and differential leucocyte count.

Kipp was the first to call attention to the importance of ophthalmoscopic examination in ear diseases.

Briefly, without applying their singificance, some of the ocular symptoms are as follows: optic aphasia, inflammation of the optic nerve, neuro-retinitis, photophobia, contracted pupils, dilated pupils, unequal pupils, choke dics and oculo motor disturbances. T. R. Pooley says: "If the optic neuritis is found in connection with purulent nflammation of the ear, the diagnosis of extension of the ear disease to the brain is certain, no matter whether any other evidence exists or not. Lumbar puncture is only of value in a certain number of cases. Its value is principally in determining the existence of a meningitis. There is always an exudation of cells in meningitis which produces more or less cloudiness of the cerero-spinal fluid, so that if on lumbar puncture we get a cloudy fluid we know we are dealing with meningitis and its degree of severity may be partially judged by the degree of turbidity present. We can also study the fluid bacteriologically for important data. If the fluid contains more than ¼ to 1 per cent of albumen we are almost certain of meningeal inflammation. Lumbar puncture may be of great value in deciding between brain abscess and abscess and meningitis. Lumbar puncture is easily performed and should be unhesitatingly used whenever in doubt as to the existence of meningitis.

The value of the blood examination and the differential leucocyte count cannot be overestimated. It is not a "find all" or "sure thing" in all cases, any more than other methods of precision, but its value has been demonstrated. A simple blood count together with the color index can be of but little value. The time was, a few years ago, when in the presence of a high leucocyte count, we said "there is a focus of pus infection somewhere." This is of little value, for it is a question of the severity of the infection and it is the differential count that is now supposed to decide this question.

The investigations of Hayem, Cabot and DaCosta have placed the general surgeon in possession of valuable information in his csaes of peritonitis and appendicitis. These same principles apply to the field of otology. After following the work of our leading investigators for the past few years I feel that I can briefly state the essentials of the differential leuccoyte count as follows: In the presence of pus infection a high leucocyte count means good body resistance. A high polynuclear percentage means a severe infection The two combined, of course, means severe infection with good resistance. A total leucocyte count of nor-

mal, or but little above normal, with a high polynuclear percentage means severe infection with low body resistance. The proposition may also be stated as follows: The number of leucocytes per cmm. varies with the body resistance, while the percentage of polynuclear leucoctyes varies with the extent and intensity of the infcetion. Sondern in the Archives of Otology, quoting Gibson, says: "The differential blood count and its relation to the total leuccoyte count is at present the most valuable diagnostic and prognostic aid in acute surgical diseases that is furnished by any other method of blood examination. The greater the disproportion the surer are the findings and in the extreme disproportions the method has proved itself practically infallible." Single differential counts are of less value than observations made every few days, as there are sometimes wide flucuations and a number of examinations puts us in possession of much more valuable information.

Treatment of these conditions divides itself into preventive and surgical.

The preventive treatment in many cases should have begun in early childhood, when the removal of tonsils and adenoids would have saved future trouble, together with careful attention to the throat and naso-pharnyx in the acute infections. The preventive treatment has been well covered in the paper preceding this.

Except in cases of erosion through the attic, which are usually associated with chronic otitis media, intracranial involvement is secondary to mastoiditis, acute or latent. Latent or quiescent mastoiditis again usually associated with chronic otitis media. Therefore abortive treatment can only be considered in the acute cases. In addition to what has been considered in the preceding paper we should insist on rest in bed, saline purgatives, hot applications in the form of the hot water bag or hot salt bag. Douchs as hot as can be born every hour. We may use cupping leeches and some commend the Wild incision.

If mastoiditis develops in spite of these precautions an operation is demanded and the sooner the better, for we cannot look in and see how rapidly destruction is extending toward the intra-cranial structures. The operation can do no harm while delay may cost a valuable life.

The surgical treatment of the complications of acute or chronic otitis media is too important a subject and requires far more time than can be given to it this evening.

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LOCAL VERSUS GENERAL ANESTHESIA.

BENJAMIN MERRILL RICKETTS, M. D., LL. D.

CINCINNATI, O.

The four great achievements in surgery during the last seventy years are: General anestheisa; asepsis; technique; local anesthesia. General anesthesia with loss of mental consciousness. General anesthesia without loss of mental consciousness. Local anesthesia without loss of mental consciousness. Local anesthesia without constitutional effects.

Anesthesia.—Want of feeling may be mechanic, pathologic or artificial, temporary or permanent, local or general, each with or without loss of mental consciousness. General anesthesia was in the beginning, is now and always will be practiced with the greatest anxiety, though it is absolutely necessary in certain cases, because of the desperate surgical trauma and the conditions which necessitate its infliction. General is the most dangerous of all forms of anesthesia, whether given by an expert or a tyro, alone or combined, with or without organic lesions, in health or disease, to a giant or a pigmy, in young, middle or advanced life

The word general is indefinite, because there are three methods of making anesthesia general, each entirely different from the other. General anesthetics producing loss of mental consciousness are given in the order of their popularity, while general anesthesia without loss of mental consciousness is mentioned in detail. Local anesthetics era given in the order of their popularity, with an extensive list of different operattions which may be done in this manner.

Favorable mention is given to hypnosis, also local anesthesia without constitutional effect, which may be obtained by water and electricity.

The various methods of producing local anesthesia are given, among them nerve blocking and intravenous and spinal injection. The various structures for local anesthesia are given in the order of their use. The mucous membrane is divided into the respiratory, genito-urinary and alimentary.

The tables given indicate the tissue to be operated upon, the character of the operation, the causes for operation, and methods of producing anestheisa.

Inflation of the colon should be practised in every case of an abdominal mass of doubtful nature.—Amer. Jour. of Surg.

*Abstract of a paper read before the Mississippi Valley Medical Association, St, Louis, October 13, 1909,

THE MEDICAL FORTNIGHTLY

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EDITORIAL

The Pre-Determination of Sex.

As old as the history of mankind is the problem of definite sex causation. The desire for a boy or a girl, as the case may be, has been a matter of mighty consequence, a matter on which the fate of kingdoms has frequently depended and one which has led to tremendous conjugal disturbances in lesser places. The medical profession has naturally been called upon to promulgate some dependable law whereby sex may be predetermined with a result of the theories of male or female physical domination, the male and female testes, the male and female ovaries, position, time, etc., as factors of supposedly determining certainty. Literature is full of more or less humorous tales of success and failure in sex determination undertaken by physicians and we are not at all certain that it is not a fortunate thing that it seems to be a matter beyond the control of human beings. Yet we readily see that there may be circumstances where the possibility of securing a child of the desired sex may assume such vital significance as to make it of tremendous importance that we reach the fact in the matter if it is possible to discover it. At a recent meeting of the Caucasian Medical Society at Tiflis, Buch is said to have demonstrated two distinct varieties of spermatozoa, by means of the staining method of Reiter and Romanowsky, some taking blue in the head part and others red. He repeated the experiment with Gram's stain and found some heads red and others violet. The announcement of this discovery has led to a claim of priority from other quarters Its importance seems but slight unless it can be determined that one or the other variety of spermatozoons is definitely the cause of one and only one sex and after development of a method of exclusion of the undesired spermatozoon from the ovum, which, from the very nature of things, seems impossible. One of the most instructive and readable works along this line which we have seen is a brochure by Dawson,* in which he propounds and defends the theory of the male and female ovary with alternating function. He is so convincing in his argument and the array of statictical information with which he backs it that one is prompted to put the theory to a test as opportunity may be met. Certainly the theory is free from objectionable qualities in the effort to demonstrate its verity. A statement of the theory and the exercise of some calculating in a few families where children are numerous has established it in each instance. Dawson goes into the intricacies of the subject beyond what is possible for us, but the idea is that of alternating function of the ovaries and each with its definite and permanent sex product. We think it perfectly safe to allow this theory to reach the public as, even though definitely established, it does not take into consideration the facts of desire and the frequency of unintentional fecundation, and there is not the slightest possibility of any overwhelming preponderance of one sex over the other. There will be boys and girls so long as there are men and women.

Democratic Government Organized Medicine.

The exclusion of the paper of Dr. G. Frank Lydston from the program of the recent meeting of the M. V. M.A. has, as we predicted, awakened not a little apprehension in many places as to the outcome of a continuance of the present trend in medical organization if it is not curbed. The American Association is too grand an institution for any of its loyal adherents to contemplate possible disaster to it without genuine distress. But disaster must certainly come unless there be changes in policy and an elimination of despotism from its conduct. Many men are considering the question of a possible remedy for the evident disaffection which is so markedly growing. There can be no question that the separation of the offices of secretary, editor and general manager is the first and all-important move. A more democratic method of representation is also needed. Dr. Lydston has scheduled the changes which he considers immediately necessary and as he has given the matter

*The Secret of Sex, by E. Rumley Dawson, L. R. C. P., Lond.; M. R. C. S., Eng. Cochrane Publishing Co., Tribune Building, New York.

more thoughtful consideration than has any other man we can do no better than give the itemized result of his deliberation to our readers:

1. If conditions go as they are, only a new and democratic association will conserve the best interests of the profession.
2. The offices of editor, secretary and manager of the A.M.A. should be separated and filled by men of unimpeachable professional records.
3. There should be at least three local trustees to act as a board of business supervisors.
4. All officers should be elected by ballot of the members in attendance. Provision should be made for nomination by petition.
5. Bonds should be provided for all officers who bear financial responsibility.
6. Complete itemized accounts of its business should be rendered the members of the A.M.A. yearly.
7. A membership committee should be appointed.
8. Space should be provided in the journal for free criticism of the methods of the A. M.A. by the rank and file.
9. An editor should be appointed who has literary ability and can write editorials which are now farmed out at great expense. He should devote himself exclusively to editorial work.
10. The initiative and referendum should be adopted. The present provision for a referendum is a hollow mockery
11. No member should be expelled without a fair trail.
12. No person holding an office of trust or legislation in the A.M.A. or State societies should serve as elector in the State or National Houses of Delegates.
13. Elections in the subsidiary societies should be by ballot.

Quiet Zone.

The establishment in Eastern cities of zones of quiet around large and important hospital is a beneficent move which has never as yet gone beyond discussion in St. Louis. With a few exceptions our more important private hospitals have been removed to regions outside the noise and bustle of the city and their very location serves in a high degree to give the quiet desired. After the destruction of the old City Hospital by the cyclone of 1896 one argument against its reconstruction on the same ground was that the neighborhood had become too crowded for such an institution to remain there. Nevertheless the new institution has been placed in that congested district, it is convenient anyway. But the problem of noise is a serious one with which physicians and patients have to contend. It is in this connection that the plan for the establishment of a quiet zone is under discussion. Plans vary from a simple scheme of noise suppression to the more radical one of street car removal and property condemnation on each of the four sides of the property thereby enlarging the grounds by a block of parkway on each side. The tremendous expense which this would necessitate is somewhat staggering, but the hospital is now a fixture in that lcoation, it is to remain there many years, and it is certainly going to outgrow the limited space now at its disposal; it will never be possible to acquire this property cheaper than at present. As a business proposition contemplating future necessity, and as a move to better the condition of our sick at the present the undertaking is none too great for serious consideration. The first official sanction of the scheme comes from the Medical Society of City Hospital Alumni, who, at their meeting on October 21st, adopted the following resolution:

> Whereas, It is of importance to the physical and mental health, quietude, and welfare of the inmates of the City Hospital that a larger ground area for breathing, exercise, and recreation purposes be provided there than is now afforded; therefore be it
>
> Resolved by the Medical Society of City Hospital Alumni, That the municipal government be and is hereby respectfully requested to consider and take such official action as may be necessary to enlarge the area of the grounds of the City Hospital by adding and acquiring thereto the adjacent private property bounded respectively by Lafayette avenue, Fourteenth street, Park avenue and Dolman street, with removal of the street railway tracks now on the east and west sides of the institution to more distant locations in order to free the patients, as much as possible, from all unnecessary and disturbing noises.

The Alumni Society is aggressive, when it undertakes a thing we expect to see something accomplished, and we can but feel that the cause is fortunate in having been espoused by this organization.

Personal.—Dr. William Bailey, of Louisville, Ky., has been elected to succeed Dr. J. M. Mathews as president of the State Board of Health. Dr. Bailey has been a member of the board for twenty years, and a professor in the University of Louisville for fifteen years. He is 76 years of age. We are glad to see the young man given this position.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Managing Editor, Century Building, St. Louis.

Genito-Urinary Diseases and Syphilis. By Henry H. Morton, M. D., Clinical Professor of Genito-Urinary Diseases, Long Island College Hospital, etc. Fully illustrated. Second edition, revised and enlarged. Philadelphia: F. A. Davis Company, Publishers. (Price $4.00.)

This very excellent text book seems to have been prepared with an aim to make its important points stand out on each page so that the reader will be spared the necessity of hunting for the meat of the subject; the short paragraphs and free use of full faced type and italics through the text is an aid which readers will appreciate; we cannot too strongly accentuate our appreciation of the absence of long and complicated paragraphs in which it is frequently difficult to keep the connection. This characteristic of this volume makes it one especially suited to the purposes of medical students and physicians who must of necessity limit their reading to brief moments with a text. The text itself leaves so little to be desred that it comes a as close to the ideal as does any we have ever seen. The author is happy in his description of technique and has introduced illustrations with a generosity which readers will appreciate. We know of no other text on this subject better suited to the use of students in connection with their work in the lecture room, and its practical worth for those in practice is evident.

A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine in the Northwestern University Medical School, Chicago. New (second) edition, thoroughly revised. Octavo, 1246 pages, with 100 engravings and 21 full-page plates in colors and monochrome. Philadelphia and New York: Lea & Febiger, 1909. (Cloth, $5.50, net; leather, $6.50, net.)

The merit of Professor Edwards' work has won the practical recognition of a very early call for a new edition. It is the product of an experienced physician, a notable teacher, and an unsparing worker. No less efficient combination in the person of one man could adequately exhibit present day medicine in a single volume withal of convenient size. This he has done, and in excellent perspective, making a well-proportioned book, properly directed, as he says in the preface, that, with everything necessary, and everything leading up to the final object of medicine, namely, treatment. Thorough systematization is employed for brevity and ease of consultation, and moreover for the even more improtant advantage thereby secured that facts arranged in their natural order lead into each other and impress the underlying reasons on the reader's mind. Critical study of his own work, and careful consideration of the reviews, have led the author to adhere to the plan and features that have proved so popular, but he has spared no labor in improving it to the utmost. The work has been practically rewritten to secure increased clearness and conciseness, and the result is seen in the extraordinary fact that although the new edition contains a vastly greater mass of information it is some seventy pages smaller. All the real advances throughout this immense domain have been incorporated. Perhaps the most interesting new feature will be found in the fact that particular attention has been given to the therapeutic details in accordance with the recent awakening of the profession to the importance of logical treatment. Numerous new preparations and modified dosages, particularly of children, are explicitly specified. In a word, all classes of readers, students and practitioners alike, will find this very broad and skillful work admirably stuited to their requirements.

A Text-Book on the Principles and Practice of Surgery. By George Emerson Brewer, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings and 14 full-page plates. Philadelphia and New York: Lea & Febiger, 1909. (Cloth, $5.00, net; leather, $6.00 net.)

To present a well proportioned exposition of modern surgery in a volume of less than a thousand pages requires an author to combine broad knowledge, good judgment in determining what is really important, and a concise way of stating it. Both as a skillful surgeon and as a teacher in one of the leading colleges, Professor Brewer knows his subject and how to present it. He frankly states that his first edition was uneven and not sufficiently complete, a fault readily corrected after having the entire book in print before him, instead of simply the manuscript, as at first. The interval spanned by the original edition was, moreover, noteworthy for the immense amount of productive investigation. To represent the surgery of today in its full development, the author has revised every line of his work and incorporated new matter to the extent of two hundred pages, and he has correspondingly enriched the engravings and colored plates. It is interesting to note that the new process of color-photography direct from nature has been here employed for the first time in medical literature. As the work deals with

the principle as well as the practice of surgery, that answers every requirement of students and surgeons who desire more than a manual and less than a portly volume.

The Production and Handling of Clean Milk, including Practical Milk Inspection. By Kenelm Winslow, M. D.; M. D. V.; B. A. S. (Harv.), formerly Instructor in Bussey Agricultural Institute and Assistant Professor in the Veterinary School of Harvard University. Second edition, 367 pages, 101 illustrations, including 1 colored and 16 full-page plates. New York: William R. Jenkins Co., Publishers, 851-853 Sixth Ave. (Price, $3.25.)

A complete, plain, practical and authoritative guide to the production, inspection, analysis, handling and distribution of milk for veterinary, agricultural and dairy students, farmers, health officers, milk inspectors, practical dairymen, sanitarians, country gentlemen, physicians and others interested in matters pertaining to dairying and hygiene.

No movement is attracting more attention at present, nor is any more important as regards the health of the country. Dirty milk causes most of the infant mortality in summer.

Health authorities all over the the civilized world are enforcing higher requirements for market milk. This behooves all connected with the dairy industry to keep informed of the latest knowledge about the matter. The book gives all practical details about clean milk from the time it leaves the cow until it reaches the consumer. A very practical part of the book for students of dairy bacteriology consists in the laboratory experiments by Professor Conn. These give all the details for determining the common bacteria in milk and for studying their characteristics. They also how to determine the effects of pasteurization; of contamination of milk with dirt and dirty utensils; the effects of improper cooling and care, etc. Moreover, methods of milk analysis are given and directions for the practical examination of cream, butter and cheese.

While the work is scientific or exact, it is written as well for the intelligent layman. The writer has had perhaps unusual facilities for studying all sides of his subject, being a practicing physician, a graduate of a medical, veterinary and agricultural school, and he has had practical experience with animals and with the production and distribution of certified milk, and he has also been an official in charge of a laboratory having supervision over the milk supply of a large city.

The chief feature of this work is its practical and comprehensive character.

The Century is to "feature" articles on American sports by Walter Camp, his "Foot ball Up to Date" in the November Century being the first of several papers, which promise to be the most notable presentation of the inside history and development of college and amateur athletics in America yet published. Mr. Camp's pubilshed writings—notably his "Book of College Sports"—and extended contributions to periodicals have exerted a most wholesome influence upon college athletics and led to their widespread recognition as a supplemental means of perpetuating a sound and vigorous type of American manhood. In his student days a famous athlete and captain, he is now recognized as a foremost authority in college sport. He has carried his talents for organization into the practical side of life, and is president of one of the largest manufacturing plants of New England, a member of the Yale faculty, and on the University Council, yet still finds time to act as treasurer of one of the oldest endowed schools in America.

Illness of Dr. Byron Robinson. We regret to hear of the protracted illness of Dr. Byron Robinson. His many friends are wishing him a speedy recovery

Another Chapter in the Travel Series.—The next issue of the Fortnightly will contain another chapter in Dr. Eccles' very interesting series of letters, "Touring the Lands Where Medical Science Evolved." The next paper takes the reader through Brittannia.

Committee on Credentials and Arrangements for the United States Pharmacopeia.—President Horation C. Wood has appointed the following committee on credentials and to make arrangements for the United States Pharmacopeial Convention, which will be held in Washington, D. C., beginning Tuesday, May 10, 1910.: Professor O. T. Osborne (chairman), Yale University, New Haven, Conn.; Dr. H. C. Wood, Jr., University of Pennsylvania, medical department, Philadelphia, Pa.; Mr. L. S. Hilton, Washington, D. C.; Mr. W .L .Cliffe, Philadelphia, Pa.; Dr. James H. Beal, Scio, O. The following officers of the convention are ex-officio members of the committee: President, H. C. Wood, Jr., University of Pennsylvania medical department, Philadelphia, Pa.; secretary, Dr. H. M. Whelpley, Washington University Medical Department, St. Louis, and assistant secretary, Dr. Murray Galt Motter, Hygienic Laboratory, Washintgon, D.C.

MEDICAL PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

INTERNAL MEDICINE.

O. E. LADEMANN, M. D.

The Value of the Wassermann Reaction in Cardiac and Vascular Disease.—Collins and Sachs (Am. Jour of the Med. Scs., Sept., 1909) base their conclusions on a study of 36 cases of cardiac and vascular disease. The importance of syphilis as a causative factor is established in a very large percentage of cases. The highest percentage was obtained in cases of aneurism, in which a positive Wassermann reaction was obtained in all of five cases. In cases of aortic disease 10 out of 13 cases gave a strongly positive reaction; 2 gave a weak positive reaction. In marked contrast to this are the cases of diffuse chronic endocarditis affecting the mitral valve, in which only one of the 7 cases gave a positive reaction. The inference is justified that rheumatic and other infectious agencies are a much more potent etiological factor in diffuse chronic endocarditis than in syphilis. Taking all of these factors into consideration there can be little doubt that when we have pronounced symptoms of aneurism or of aortic disease it is well to suspect syphilis, even though the manifestations may be latent. Even in those cases in which articular rheumatism and other infectious agents may have played some sort of a role, and in which metallic poison or abuse of alcohol or of nicotine be admitted, if a Wassermann reaction gives positive results, antisyphilitic treatment should be instituted, whatever else may have been discovered regarding the antecedent history of the patient. No doubt articular rheumatism and syphilis occur often enough in one and the same individual, and if the course of antisyphilitic treatment has been decided upon, we may at least ask that it be properly administered. The authors favor the routine treatment by hypodermic injections of mercury, leaving the choice of a soluble or insoluble salt to the experiences or the prejudices of the individual practitioner. Their best results have been obtained by the use of deep sublimate injections. It may be argued that little is to be expected from antisyphilitic treatment in an advanced case of aortic insufficiency or of aneurism. In some of the authors' cases marked improvement in the cardiac and vascular symptoms has followed upon such a treatment, but even if the vascular system should not improve upon the mercurial treatment, a positive Wassermann reaction would justify vigorous specific treatment for the purpose of preventing serious syphilitic involvement of other organs and systems of the body.

Some Conditions Affecting the Discharge of Food from the Stomach.—Hedblom and Cannon (Am. Jour. of the Med. Scs., Oct., 1909) discuss this subject at length, summarizing their article as follows: If carbohydrate food is thinned by adding water, there is, within limits, very little change in the rate of exit from the stomach; but adding water to protein food tends to make the discharge more rapid. When hard particles are present in the food the rate of outgo from the stomach is notably retarded. Coarse branny food leaves the stomach slightly faster than similar foods of finer texture. The presence of gas in the stomach delays gastric discharge, an effect due to the gas preventing the walls of the stomach from exerting the normal mixing and propelling action on the food. No considerable variation from the normal rate of exit from the stomach is observed when the food is fed very hot or very cold. Food with approximately normal acidity leaves the stomach much faster than food which is hyperacid (1 per cent), a result in harmony with other observations on the acid control of the pylorus. Feeding acid food is followed by deep and rapid peristalsis. Massage of the stomach, even when extensive, has very slight influence on the passage of food through the pylorus. Irritation of the colon (with croton oil) notably retards gastric discharge and delays the movements of food through the small intestine.

Investigation of Blood for Tubercle Bacilli.—Brem's (Jour. A. M. A., Sept. 18, 1909) investigations lead him to the following conclusions: 1. In examining blood, urine, stools, sputum and exudates for tubercle bacilli, the greatest care should be used to exclude contamination of water and all solutions used with members of the acid-resisting group of bacilli (whether dead or alive). 2. In this investigation, coincidents occurred which were all but convincing of the presence of tubercle bacilli in the blood in every case of tuberculosis. 3. Animal experimentation was negative, but the quantity of blood used for inoculation was too small for the results to be of value. 4. Acid-alcohol-resisting organisms were found eventually in fresh distilled water furnished by the Isthmian Canal Commission in a water, in old distilled water made with care in the pathologic laboratory, and in all solutions made up with the Canal Commission water. These bacilli were either dead

or non-pathogenic to guinea-pigs. 5. There is as yet no conclusive proof of the frequent continued presence of tubercle bacilli in the circulating blood.

Tubercle Bacilli in the Blood.—Petty and Mendenhall (Jour. A.M.A., Sept. 11, 1909) respond to an article published by Ravenel and Smith, who conclude from their findings in18 cases of tuberculous patients together with confirmed reports from all over the world, 'that the Rosenberger method is of no value.'' The authors report 10 such examinations, a number quite too small to warrant them in criticizing such an authoritative and conservative worker as Rosenberg, yet sufficient, they think, to permit them to question the above results and conclusions. Their technic was that, according to Rosenberger's improved method. The venous blood is smeared rather thickly on clean slides, dried, slaked in distilled water, fixed, then stained with gently heated carbol fuchsin for five minutes, washed with water, decolorized with 25 per cent nitric or sulphuric acid, then stained with methylene blue, or with Gabbet's solution used immediately after the carbol fuchsin. They hold that there is no doubt but what these were tubercle bacilli from both a morphological and tinctorial standpoint. If this technic does not demonstrate that these were not tubercle bacilli, then one cannot make a positive diagnosis of bacillary sputum without inoculation tests. The authors do not wish to go on record as to the practical value of the Rosenberger method, but report their findings to encourage others to continue their labors, for the subject certainly cannot be considered a closed one.

Exophthalmus and Other Eye Signs in Chronic Nephritis.—Barker and Harris (Am. Jour. of the Med. Scs., Oct.,1909) observed 16 cases (48.4 per cent) of exophthalmus among the total admissions of 33 cases of chronic nephritis during the four months of 1909 treated at the Johns Hopkins Hospital. The exophthalmus varied greatly in degree, as did the gravity of the nephritic process in the various individuals. It may be stated that those cases presenting evidences of serious intoxication (suburemic or uremic symptoms) most frequently showed exphthalmus and one or more of the allied ocular signs—von Graefe's sign in 11 (68.7 per cent), Stellwag's in 13 (81-3 per cent) and Moebius ' sign in 7 (43.7 per cent). The pupils were noted as unequal in 5 cases (31 per cent), and albuminuric retinitis was observed in 8 cases (50 per cent). All of these classic signs of exophthalmic goitre may be present in a maximum degree in chronic nephritis without the thyroid showing any apparent involvement. The conclusion lies very near, that in both diseases a chronic systemic intoxication affecting the autonomic system is the causative factor in the production of the ocular manifestations.

OTOLOGY.

A. F. KOETTER, M. D.

Hot Air Treatment in Otology.—(Compilation of Dr. F. Valentine, Internationales Central baltt fuer Ohrenheilkunde.)—Hot air as a therapeutic agent was first mentioned in 1845, by Dieffenbach in his book on technique of operations. Although hot air can be generated very easily. Dieffenbach did not use it himself, it remained for him only a hypothetic remedy. Fifty years after, in 1895, Voostaedter, a Russian physician in Bialystock, constructed a warm air generator, which was followed by the more or less complicated hot air apparatus of the present time. In 1897 Hollaender showed a very simple instrument which consisted of a rubber bulb attached to a metal tube running to a point. The metal tube was held in an alcohol flame and the air blown through the heated tube, and thus hot air generated. This apparatus is still used by a dentist at the present time. Each special branch of medicine has adopted hot air as a therapeutic agent, viz., in surgery for joint affections, etc., in gynecology, in dermatology in lupus, ulcus durim and ulcus molle, ophthalmolgy, and finally in otology and rhinology.

In otology hot air was used in the treatment of diseases of the middle ear and the tubes. The first reports were made by Lameansant in 1897. Favorable results were had in otologia, otorrhea and tubal catarrh. Furthermore, pain following rupture of membrane in the course of acute catarrhal conditions was diminished by dry warm air. His apparatus has the shape of a revolver. The handle is held by the operator, a small container holding a piece of coal, is held over an alcohol lamp, and with a rubber bulb the heated air is forced through the barrel, at the end of which is a curved or straight piece to fit the canal. It should also be mentioned that in diseases of the nose, the accessory cavities of the throat, and to alleviate headaches, Lame-Vansant achieved favorable results with the hot air treatment.

In 1900 Andrews (New York) reported his success in treating middle ear suppura-

tions by warm dry air. His treatment rests on the basis that a drying out of the nourishing surface is unfavorable for the growth of bacteria. The instrument used is very simple. A long thin metal tube is connected with a metal cylinder to which is attached a glass or woooden handle. The metal cylinder is heated by an alcohol flame and through double bulbs fastened behind the warm and dry air is forced through the thin tube, under mirror guidance into different parts of the tympanic cavity. The bulbs are operated by the patient so that both hands of the physician are free. The air must always be tested, before it is blown into the ear, that it may not be too hot. Andrews has used this method since 1894 with marked results in middle ear suppurations, and is considered by him a valuable adjunct in treatment of this disease. If granulations are present in the tympanic cavity, they are removed before the dry hot air treatment is used. In connection with Andrews' report Hessler warns against the use of dry hot air based on his experiences from 1880 to 1887. During this time Hessler used dry, not hot air, passed over carbolic acid solution in treatment of chronic suppurations. The results were unfavorable. According to his idea if bacteria should be made harmless by hot air, such a high temperature is necessary that a burning of the soft parts of the ear might be possible. But Andrews does not claim to kill the bacteria with his warm air, but only makes the culture media sterile. Loewenberg who had been treating ozena, according to his idea a parasitic disease with hot air of 60 per cent to 70 per cent temperature, mentions that he has been treating old otorrheas with heated air passed over chlorcalcium.

In 1900-01 papers appeared by Lermoyez and Mahn. These authors used the hot air in treatment of pathological conditions of the nose, viz., hypertrophies, swellings, polypoid degenerations. Author noted results of hot air in their own normal nasal mucous membranes previously. The action of the application of hot and dry air, of a temperature of 70 deg. to 90 deg., on the mucous membrane of the inferior turbinate at a distance of the canula end of 3 mm. from the mucous membrane was as follows: At first no pain, after a short time the mucous membrane becomes dry, red and tense, it appears smooth and glistening. If the temperature is increased and the mucous membrane still exposed, the patient complains of dryness followed by more or less stringy secretion, protest of the mucous membrane against the action of the warmth. These facts urged Lermoyez and Mahn to use therapeutically the hot air in above named conditions. In pathologically swollen mucous membranes these symptoms appear in a more severe degree. The mucosa shrinks so perceptibly that it looks as if painted with cocain. Otolgias which are often accompanying symptoms of disease of the nose, pharynx and larynx, and the result of certain hyperemic, irritating conditions and oftentimes indicate the first degree of an acute otitis media. In such cases authors noticed a decided improvement by blowing hot air into the region of the tube, even in otalgia due to laryngeal tuberculosis. Hot air has benefited tinnitis following stenosis of the tube of a congestive character. The individual sittings last from 3 to 5 minutes. As can easily be recognized hot air in the treatment of tinnitis or deafness in connection with stapes ankylosis is of little value.

The same good results had by Lermoyez and Mahn were reported by Guillat in tubal and tubo-tympanic catarrh, and following report of twenty-three cases he warmly recommends hot air injected through catheter.

Bernoud has catheterized cases of tubal stenosis and ankylosis of the ossicles with hot air. Especially good results are achieved if an essence of pinus sylvestris is added to the air inflated. Bronner treats dry catarrh and sometimes tinnitis with heated air. The applications last from one-half to five minutes according to the nature of the case. Ferrain has derived satisfaction from the use of hot air in tubal stenosis and tubal catarrh treated bi-weekly per tubam, after the insufflation he could notice a decrease in the swelling at the tubal mouth, and the surrounding mucous membrane.

In chronic middle ear suppurations and to hasten healing after radical mastoid operation, hot air was used by Lermoyez and Mahn, Lautenschlaeger, Warnecke, Galesceano, Gobat and Ferrain. The action of the hot and dry air in the above mentioned pathological processes is a double one. In the first place, it dries the surface and diminishes the secretion, and as has been mentioned before, diminishes the nourishing base for bacteria by becoming dry. Opinions differ as to indications for its use in middle ear suppurations, Lermoyez and Mahn are opponents of the use of hot air when there is profuse discharge. Warnecke on the other hand, has had excellent results with this therapy in attic suppurations and as a preventive of granulation tissue formation. Gobat had good results in 17 cases in chronic middle ear suppuration and arrived at the following conclusions: Hot air

diminishes secretion, under certain conditions causes disappearance of odor, hastens epithelization, and with that the healing.

Lautenschlaeger believes hot air more efficacious than the powder therapy.

To resume, the thermo-aerotherapy can be used with good results in otology as follows: Tubal stenosis and its sequelae (otalgia, subjective noises), by catheterization per tubam, furthermore by insufflation through the external canal in radical mastoid operation and to further epithelization. In other chronic middle ear suppurations opinions are divided, sometimes good results may be obtained, and then again no benefit at all derived.

Fifteenth International Congress on Hygiene and Demography.—On the invitation of the Department of State of the United States Government, the Fifteenth International Congress on Hygiene and Demography will convene for the first time on the American continent in Washington, D. C., from September 26 to October 1, 1910. Section III of this congress deals with the subjects of the hygiene of infancy and childhood; school hygiene. It is believed that this will be a meeting of the utmost importance. We take this means of requesting your readers to let us know of any pieces of original work which are being done bearing upon this topic.

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The Endowment of the Pasteur Institute.—The Pasteur Institute in Paris will shortly come into possession of a capital sum estimated at 30,000,000 francs ($6,000,000), the product of the estate of the late M. Osiris, which is now being realized. In 1903 M. Osiris founded a triennial prize of $20,000, to be given to "the person who had rendered the greatest service to the human race during the three preceding years." The prize was awarded to Dr. Roux, director of the Pasteur Institute, for the discovery of the antidiphtheria serum. Instead of devoting the money to his own private purposes Dr. Roux made over the sum to the Pasteur Institute. This self-denying action so impressed the millionaire that he left the bulk of his fortune to the Institute as a token of admiration for the scientific attainments and self-abnegation of Dr. Roux. The Pasteur Institute is greatly in need of funds, and this endowment will firmly establish it as a monument worthy of the great master.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Twenty-second Aunual Meeting held at Council Bluffs, Iowa, Sept. 9-10, 1909.

(Continued from page 434.)

The Bacteriologic Diagnosis of Epidemic Cerebrospinal Meningitis.—Dr. S. R. Hopkins, Omaha: I wish to present a brief and practical method of establishing a bacteriologic diagnosis in this affection. A Gram-negative diplococcus occurs most often in the interior of the leucocytes of the spinal fluid. There are six species of Gram-negative diplococci with which it is possible to confuse the diplococcus of Weichselbaum, the chief among these are the diplococcus of gonorrhea and the so called pseudomeningococcus. For practical purposes, however, the identification of the meningococcus in spinal fluid withdrawn by lumbar puncture from a patient presenting phenomena suggesting meningitis, it is a procedure fraught with little difficulty, and it is the only means of affirming a positive diagnosis. In staining by the method of Gram it is well to finish the staining process by flooding the slide with a .025 per cent. solution of eosin in water, thus giving to the Gram-negative bacteria a red color. In order to establish a certain bacteriologic diagnosis, one should in every instance resort to cultivation of the germs on artificial media, and in this connection I wish to state that I have never encountered the slightest difficulty in obtaining a luxuriant growth of the meningococcus, by simply inoculating a slant of plain agar or blood serum, with the infected spinal fluid, and this, in from eighteen to twenty-four hours. In inoculating the artificial culture media, it is necessary that the inoculation be made very soon after the withdrawal of the fluid, as the germs are short-lived outside of the body and show little resistance to drying. The growth on blood serum is more abundant than on agar and it does not liquefy it. The growth appears as white, glistening spots which rapidly coalece. The organisms do not live long on the media and if one wolud keep a culture for any time it is necessary to reinoculate other tubes at least every forty-eight hours.

Advantage of Cholecystostomy in Draining the Deeper Biliary Tracts.—Dr. H. G. Welpton, Des Moines, Iowa: This paper was suggested by a serious and unexpected complication that attended two cases of cholecstectomy in my practice. The cases were of the simple type, without adhesions, obstruc-

ion, or destructive changes. The gall-bladder was removed with much the same assurance of a cure as when we remove an infected appendix. In one of the cases a large calculus formed with the hepatic duct above an acute angulation of the common duct. The angulation was due to an adhesion to the colon. In the other an acute exacerbation of a chronic pancreatitis came on at intervals obstructing the common duct. My patients were only partially relieved by removing the stone, by releasing the adhesions, and by drainage. Since reviewing the literature, I have limited cholecystectomy to those cases in which either the gall bladder or cystic duct has been contracted or obstructed, or in which an irreparable damage from gangrene, infection, ulceration, perforation or malignancy has occurred. I prefer to leave the gall-bladder, when possible, since excision does not remove the infection that is in the common and bilary ducts. I believe from my clinical, pathologic and bacteriologic findings that the common and biliary ducts partake of the infection of the gall bladder in every case to a greater or less degree. Gall bladder drainage offers the best means of a complete cure of the infections of the deeper tracts as well as those of liver and pancreas. It also provides for a cholecystenterostomy in case of complete obstruction, and serves as a guide to the deeper structures. In cases in which later calculi reform, or partial obstruction develops, cholecystenterostomy will prove a happy solution of these complications.

Diagnosis and Treatment of Stricture.—Dr. A. C. Stokes, Omaha: In this paper I summarize the treatment of stricture of the urethra as follows: 1. Alkalies, diluents, and rest are serviceable in most cases of strictures sometimes indispenseable, if there be any serious complications. 2. All uncomplicated strictures, not highly irritable or resilient, should be treated by dilation with soft instruments up to No 15. French, and with conical steel sounds afterward; reintroductions being made every third or fourth day. 3. Until well acquainted with the temper of a given stricture, every sounding should be preceded by hexamethy clenamin, followed by nitrate of silver. 4. Dilation need rarely be carried beyond the caliber of normal meatus 5. Any stricture resisting dilation must be cut. 6. For the pendulous urethra do internal urethrotomy; for the perineal urethra do external urethrotomy or the combined operation. 7 In general, anterior stricture of the urethra is curable; deep stricture of the urethra incurable. 8. Impassable strictures without retention may usually be overcome with whalebone bongies by time, patience and skill. If they finally porved impassable, the treatment is external perineal urethrotomy. 9. Retention is treated by hot baths, ether, opium, tincture of the sequichlorid of iron; failing these, by aspiration, or by external urethrotomy without a guide. 10. Traumatic stricture may be prevented by section at the time of injury. Once having shown itself it usually requires excision for a cure. 11. Resilient and nodular strictures are best treated by an excision. 12. Irritable strictures may often be cured without cutting.

Does the Present Conservatism in Pelvic Surgery Serve the Best Interest of the Patient?—Dr. Bernard A. McDermott, Omaha: Summing up the literature I find that it gives widely divergent views as to the relative value of conservatism in pelvic surgery. But whether we advocate conservatism or radicalism in pelvic operations our object should be the same—namely, the relief of existing conditions. If in this we fail, the operation has been a failure. My experience makes me oppose conservatism or any plastic work in certain pelvic lesions, such as a partially diseased tube or ovary. In the latter conditions, the resection of a cystic or partially diseased ovary, as a routine procedure, it is to be mentioned only to be condemned, as the cutting and plastic work necessary to such an operation usually produce more postoperative pain tenderness and general symptomatology than would the original condition. I have seen this follow so many times that I am convinced that, is there is any real reason for saving the ovary other than conservatism of ovarian tissue, it is far better for the patient to remove the entire organ or leave it entire. Most operators leave one or both ovaries after hysterectomy for a non-malignant condition, stating that the menopause is much milder and the woman is better off in every way. Granted that the menopause may not be so acutely ushered in when the ovaries are left: but does not the condition last indefinitely? Is it not better for the woman to have the symptoms early? Though acute, they will be brief. Again in uteri containing multiple fibroids, is it not better as a routine procedure to do a supravaginal hysterectomy than myomectomy?

Other Papers Read.—The following papers were also read: "Cataract," by Dr. T. B. Tiffany, Kansas City, Mo.: "Dementia," by Dr. G. H. Hill, Des Moines, Iowa; "The Neglected Anus," by Dr. D. T. Quigley, North Platte, Nebraska; "Cancer of the Breast," by Dr. B. B. Davis, Omaha: "Diseases of Metabolism as a Group," by Dr. Al-

fred C. Croftan, Chicago; "Renal Tuberculosis," by Dr. R. Kreissl, Chicago; "The Objects of Mechanical and Surgical Treatment of Infantile Paralysis," by Dr. H. Winnett Orr, Lincoln Nebr.

MEDICAL DEFENSE IN MICHIGAN.—The Michigan State Medical Society has adopted the plan of defending its members against suits for malpractice. The by-laws were amended so as to provide for an initial assessment of $1.50 from each member of the Association for the year 1910, and an annual assessment thereafter of $1.00 per year. Some objections were raised against the plan, but we believe these will disappear. The benefits to the members are fully understood and the practical application of the system will clearly demonstrate its importance, both as a protection against and a preventive of malpractice suits.

THE ENGLISH SPARROW AS A DISSEMINATOR OF DISEASE.—A correspondent of Bird Lore, the organ of the Audubon societies of the United States, includes, among other evil results of the introduction of the English sparrow of this country, its agency in the propagation of disease. She says: "To the dog and cat is often charged the spreading of the infectious germs of swine and poultry diseases. While these animals have one chance to be such carriers, the English sparrow is probably guilty a hundred times in his role of gleaner in the hog-pen and poultry yard." The English sparrow has been called "the feathered rat," and it well deserves the name. Its danger to human kind is not altogether negligible, for it is a ubiquitous little creature, and, while it does not enter our habitations directly, it has ample opportunities to communicate any disease germ of which it may be the bearer to our domestic animals and household pets. The germ carrying capacity of the English sparrow and its relation to public health and disease might make a profitable subject for investigation and study.

Therapeutic Sermonettes.—(George F. Butler, M.D., Chicago.)—In treating scarlet fever the patient should be put to bed in a well-ventilated room, dressed in a flannel night-gown and carefully guarded against chilliness, on account of the liability to nephritis. The body should be bathed in a warm solution of magnesium sulphate (1 ounce to a pint of water). The mouth, throat and nose are to be cleansed with a solution of menthol compound (Abbott) one tablet to twelve ounces of water. If there is much soreness of the throat steam inhalations are soothing. Internally the patient should be given at once a tablet containing calomel, grain 1-12; podophyllin, gr. 1-12; bilein, gr. 1-12; strychnine, gr. 1-500. Three or four of these may be given an hour apart, followed in two hours after the last dose with a draught of saline laxative. Calcium sulphide is the best systemic antiseptic and should be given in doses of 1-3 grains every hour until the exhalations from the skin show saturation. After the bowels have been thoroughly cleansed, the sulphocarbolates may be given to keep the intestinal canal in good condition. If the fever reaches 103 deg. or over dissolve 10 granules of dosimetric trinity in 24 teaspoonfuls of water and given of this solution one teaspoonful every hour for eight or ten doses or until the temperature is reduced a degree or two, then give half the dose or lengthen the interval between doses to two or three hours. If the temperature is very high or the fever obstinate the warm bath gradually cooled from 90 to 70 deg. or cloths wrung out of ice water applied to the head will usually suffice to allay the fever. A feeble pulse demands the use of strychnine, gr. 1-134 to 1-40 according to age or brandy (3 drams every two to four hours). Should endocarditis, pericarditis, or acute nephritis arise appropriate treatment should be once instituted. If the patient is treated as above outlined these complications rarely arise. If the cervical glands are badly swollen and threaten to suppurate, rub the glands with a few drops of camphorated oil and guiacol (10 minims of guaiacol to the ounce) and then apply cold cloths or an ice compress over the glands, As soon as desquamation commences, the child should be bathed with hot water and carbenzol soap and then annointed with a mixture of one part oil eucalyptus and four parts of olive oil. This bathing and annointing should be repeated each night the entire body, scalp and all bathed and greased. The clothing, bed clothing, etc., should be placed in a 1:10,000 bichloride solution. After desquamation is complete the child should be thoroughly bathed in a hot 1:10,000 bichloride solution, placed in a sheet wrung out of the same solution and removed to another chamber. During the course of the disease the urine should be daily examined and if there is a constant high degree of urinary acidity sodoxylin should be given two or three times a day until the acidemia is overcome. The diet should be liquid, gradually returning to a more generous diet as convalescence is established. To bring about normal metabolic conditions, quassin, the triple arsenates with nuclein, or calcium lactophosphate may be required for some weeks.

MEDICAL MISCELLANY

Death of Lombroso.—Cesare Lombroso, the noted alienist and criminologist, died at Turin, Italy, October 18, of heart disease, aged 73.

The New Empire State Insane Hospital is to be established on Lake Mohansic, seven miles from Peekskill and a mile form Yorktown Heights in Westchester county. The site is across the lake from the site of the New York State Training School for Boys and contains 550 acres. The new hospital will take care of the overflow from the State insane institutions in New York City. Buildings are to be erected on the site to accommodate 2,000 patients.

New Building for the New York Polyclinic.—The trustees of the New York Polyclinic Hospital have purchased a plot of ten lots on the north side of 50th street and the south side of 51st street, between Eighth and Ninth avenues, as a site for a new hospital, which will be one of the largest in the city, It will be twelve stories high and will cost about $1,000,000. The new building will be used as the headquarters of the institution, and the old building on East 34th street will be continued as an East Side branch.

Beriberi in England.—At Newcastle-on-Tyne as many as 25 cases of beriberi have been reported. They occurred among the men of the Brazilian warship Barossa. One death has occurred, 4 patients have been discharged, and 20 remain in the hospital. The cases bear out the rice hypothesis of the disease, for the Brazilians are rice eaters and the patients had eaten this food three times a day. The health officer, Dr. Harker, has expressed the view that the spread of the disease was due to the sailors converting the forecastle into an incubator by closing the ventilators and lighting stoves.

Japanese Pharmaceuticals.—A considerable quantity of Japanese pharmaceuticals are presented for entry at the Port of San Francisco. From an examination of these articles it would appear that the Japanese are very strongly dominated by the German influence. Many of their preparations are apparently close imitations of those of German manufacture. Most of them are of a proprietary or patent nature. Some of them have English and German labels. Most of them conform to the United States Pure Drug Laws. However, little can be said at present in regard to the purity of these articles. Some of their labels are marvelous exaggerations of the supposed properties of the different medicines. In that regard they would be most excellent teachers to our American Advertisers.—Ex.

Hair Ball of Stomach.—W. W. Butterworth, New Orleans (Jour. A.M.A., Aug. 21), says that the most remarkable of the gastric concretions found in the human subject is the hair-ball or hair-cast of the stomach of which he has found only forty-three cases reported in the literature. It is most common in women, thirty-nine of the forty-three being of that sex, and most of the cases are from literature of English speaking people. This personal observation was in a girl eight years old from whom at autopsy a hair ball, weighing three and three-quarter ounces, was taken. She had suffered from abdominal symptoms for about four weeks before death. Butterworth comments that the habit of eating hair is most often commenced in early life. His own patient was a victim of hook worm disease which may have had a part in the etiology. He finds but one other case recorded where an intestinal parasite seemed to play a part in the etiology. He thinks it probable that the custom of young girls wearing their hair loose is an important factor in setting up a habit of biting it or passing it between the teeth. Various reasons are given for the abnormal tendency. One patient said she swallowed the hair because "it was so nice," another to make her voice clear, another to clean her tongue, etc. In at least three cases the diagnosis was made before death by the passage of small tufts of hair through the bowel. It is remarkable how little the general health suffers considering the duration of the habit. Eventually the limit of toleration is reached and Nature protests. Pain is fairly constant, vomiting is common, and alternating attacks of constipation and diarrhea are the usual rule. Eventually the breath becomes very offensive, there is marked anemia, ingestion of food is difficult, emaciation and weakness increase, and the patient finally, unless relieved by laparotomy, dies from inanition or perforation. More than half of the paper is taken up with a synopsis of cases from the literature.

Rectal palpation is an essential part of the examination in most acute intra-abdominal affections.—Amer. Jour. of Surg.

Peristalsis from left to right, visible through the upper abdomen, is indicative of pyloric obstruction.—Amer. Jour. of Surg.

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FAVORITE PRESCRIPTIONS

Adrenalin for Earache.—Two or three drops of a one-to-one-thousand solution of adrenalin with or without cocaine is said to give prompt relief in cases of earache.

For Chronic Cystitis.—In the treatment of chronic cystitis Guyon prescribes a pill of the following composition to be taken four to six times a day (Journal de medecine de Paris, September 18,1909):

℞ Venice turpentine..... gr. iss
Extract of cinchona..... gr. iss
Calcined magnesia, q.s.
M. ft. pil. No. 1.

Salicylates in Rheumatism.—Witherspoon urges against enormous doses of the salicylates in rheumatism. If ordinary doses are ineffective he tries something else. He believes the reason cardiac complications occur more frequently is simply because the salicylate relieves the pain and patients assume the upright position too soon and gets around. Rest, absolute rest, he affirms to be the best treatment.—Med. Councll.

Orchitis.—This application to the testicle may be made with great relief during the first week of inflammation:

Guaiacolis..... 3iiss
Adipis lanae..... 3ij

Mix well, and rub in gently twice daily envelop the testicle in non-absorbent cotton and suspend. After a week it is better to change to:

Ung. hydrargyri.....
Ung. belladonnae.....
Ichthyoli.....
Adipis lanae.....aa 3j

Make an ointment and apply three times a day, using a suspensory bandage not very tightly applied.—Amer. Jour. Clin. Med.

Septic Gingivitis.—A very excellent mouth wash for chronic septic gingivitis such as occurs in pyorrhea alveolaris, can be composed with the addition of salicylic acid:

Acid salicylic.....
Acid benzoic.....aa gr. xvj
Tinct. krameriae..... f3jss
Alcohol absol..... f3j

A teaspoonful to a small wineglassful of water as a mouth-wash.—Ther.Gaz.

Headache of Neurasthenia.—Bingl prescribes the following pill to be taken at bedtime:

Quininae sulphatis..... grn. xv
Arsenici trioxidi..... grn. j
Ext. cannabis indicae.....gr. vij
Pulv. rad. valeriani .....
Ext. valeriani.....aa q. s.

Mix and divide into thirty pills.—N. Y. Med. Jour.

Cough in Tuberculosis.—

Codeinae sulphatis ..... grn. iv
Acidi hydrochlorici dil..... fl.3ss
Spir. chloroformi..... fl.3iss
Syr. acidi citrici.....fl.3j
Aquae.....ad. fl. 3iv

M. Sig.: A teaspoonful in water every two hours.

The following is recommended by D. E. Hughes:

Morphinae sulphatis.....grn. iv
Ammonii et potassii tartratis.grn.ij
Ammonii chloridi 3ij
Syr. glycyrrhizae.....ad. fl. 3iv

M. Sig.: A teaspoonful in water every four hours.—Jour.A.M.A.

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MEDICAL MEMORANDA.

Substitutes for Cod Liver Oil.—These are days of questioning agents and their names, suspicion has been implanted in the minds of doctors relative to numerous agents which they have tried and found clinically effective, often years of successful use is overbalanced by the report of a commission or experts and that when we have the brilliant example before us of how easy it is for the next commission of experts to entirely reverse the first in its findings. The preparations representing other than the fatty properties of cod liver oil are meeting opposition from some of the experts but they have so established their usefulness that it seems improbable that any attack can seriously effect them. The Katharmon Chemical Company has lately issued a booklet on Hagee's cordial of the extract of cod liver oil compound in which analyses, descriptions and signed statements from chemists of national repute are given and the place of that therapeutically effective agent is made clear. The booklet is well worth thoughtful perusal.

The "Storm" Binder and Abdominal Supporter.—The profession is a unit in believing in the usefulness and actual necessity of some form of abdominal binder after operations upon that region. The variety of binders that have been put upon the market is almost without number. The very fact that so many different kinds have been in use indicates that most of them have been unsatisfactory. Dr. Katherine L. Storm, of Philadelphia, has placed upon the market a form of abdominal binder and supporter which bids fair to become the most popular of any yet introduced to the profession. This binder took the prize offered by the managers of the Woman's Hospital, of Philadelphia. It is a light, flexible, washable and durable appliance, without rubber or steel in its construction. It is used for any purpose for which an abdominal supporter may be needed for a man, woman or child. It ls applicable for general support, and, by means of a reinforcing strap, with pad, it may be used for local support as well, for instance, for hernia. It is especially valuable for movable kidney, enteroptosis or Glenard's disease. It is an ideal post-operative binder. It is a great comfort to women during the pregnant states. It is readily adjusted and produces no discomfort when worn. Measurements may be taken, and supporters ordered from the manufacturer, Katherine L. Storms, M. D., 1612 Diamond Street, Philadelphia, Pa. Those who have used the "Storm" binder have been particularly well pleased with it, and for this reason we are anxious that out readers should become acquainted with its many virtues. The company keeps a record of all measurements sent in, so that orders may be duplicated without difficulty or loss of time. All mail orders filled within twenty-four hours on receipt of price.—Wisconsin Med. Jour.

Glyco-Thymoline in Gynecological Conditions, with Particular Reference to Uterovaginal Catarrh.—(F. L. Newton, M. D., Boston, Mass.)—A novel way of using glyco-thymoline for vaginal leucorrhea will be of interest. Obtain a few sea sponges of fine soft quality. Cleanse and boil. Draw a thread or cord through one end of same, saturate it with glyco-thymoline (full strength) previously placed in a small dish or cup, say half an ounce. The application of the tampon is best made by the use of a Ferguson's speculum so placed as to expose or encircle the cervix uteri. With sponge filled with glyco-thymoline gently press through the speculum against the cervix and gradually withdraw speculum, patient being in lithotomy position with hips raised. If you wish, instruct the patient as to the method. Have her procure the sponges, also a glass piston formed vaginal syringe, half ounce or ounce capacity. Fill the syringe with the glyco-thymoline solution, insert into vagina, slowly pressing piston until syringe is emptied. Then insert a sponge tampon, previously saturated with glyco-thymoline (excess solution squeezed out). This is far superior to the cotton or wool tampon and can be outdrawn after twenty-four hours, washed and boiled and used again if desired. The treatment of mucous surfaces is interesting because effectual. Intra-uterine treatment, however, is a very delicate piece of work and should never be undertaken except by an experienced physician and under favorable conditions. A few of these conditions must be induced by the operator. First.—Dilatation of the os. Often the case is a multipara with a profuse uterine leucorrhea and careful use should be made of the dilator. Second.—Perfect asepsis—instruments sterilized and parts cleansed. Third.—Application of the medicament (glyco-thymoline) by saturating gauze or proper material for the purpose and if necessary introduce a uterine tubular speculum and blunt pointed and forked applicator. It is not necessary that prongs should be long or sharp but rather short and blunt and carefully passed through, carrying a narrow tape of gauze, single, carried to the fundus, then tufted in until cavity is lightly filled. Then with a syringe with fairly long beak pass through the speculum which is partially withdrawn or fully withdrawn, the glyco-thymoline can be forced into the packing until thorough saturation is procured, Is should be removed in twenty-four to forty-eight hours and may be repeated once to four times a week as indicated. The sponge tampon is inserted when the uterine packing is removed. There is no question of the efficacy of such treatment and its superiority to intra-uterine injections of iodine, pyrogallic acid, carbolic acid and cauterization by silver nitrate, etc.